

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number
WO 2004/095792 A1

(51) International Patent Classification?: **H04L 27/26,**
H04Q 7/36, H04L 12/28

(21) International Application Number:
PCT/IB2003/001502

(22) International Filing Date: **23 April 2003 (23.04.2003)**

(25) Filing Language: **Italian**

(26) Publication Language: **English**

(71) Applicant (for all designated States except US): **TELECOM ITALIA S.P.A. [IT/IT]; Piazza degli Affari, 2, I-20123 Milano (IT).**

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CALCAGNO, Andrea [IT/IT]; Via Guido Russa, 11, I-87072 Francavilla Marittima (Cosenza) (IT). BURACCHINI, Enrico [IT/IT]; TELECOM ITALIA S. P. A., Via G. Reiss Romoli, 274, I-10148 Torino (IT).**

(74) Agents: **MARKOVINA, Paolo et al.; Pirelli S.p.A., Viale Sarca, 222, I-20126 Milano (IT).**

(81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,**

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PI, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

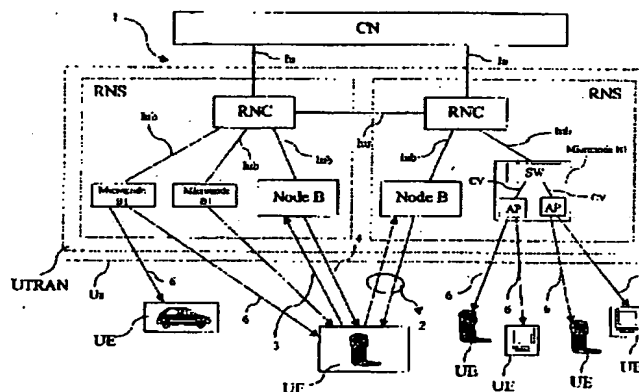
(84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PI, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European**

[Continued on next page]

(54) Title: **RADIOTELEPHONY NETWORK WITH MULTI-CARRIER PACKET DATA TRANSMISSION**



(57) Abstract: The present invention relates to a radio telephony network (1) supporting at least one link of a radio channel (6) for a packet data transmission service. The radio telephony network (1) comprises a plurality of network controllers (RNC). Each network controller (RNC) is connected, via an interface I_{ub} , to at least one base radio station (B-node) supervising at least one macrocell (5a). The radio telephony network (1) additionally comprises at least one base radio microstation (B1-micronode) connected to the network controller (RNC) via an interface I_{ub} of the same type as that connecting the base radio station (B-node) to said controller. The base radio microstation (B1-micronode) supervises at least one microcell (5b) incorporated in at least one macrocell (5a). The base radio microstation (B1-micronode) provides the packet data transmission service in the microcell (5b) on the link of the radio channel (6), preferably using multicarrier radio access. The multi-carrier radio access is preferably of the OFDM type.



patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).
OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG)

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report